

Annual Report

Fish Passage Operations at the Landsburg Dam Fish Passage Facilities on the Cedar River from July 2007 through June 2008

Paul Faulds
Landsburg Fish Passage Manager
Scientific & Technical Services
Utility Systems Management

John McDowell
Fish Passage Operations Lead
Field Operations and Maintenance
Drainage and Wastewater



**Seattle Municipal Tower, 700 5th Ave, Suite 4900,
PO Box 34018, Seattle, WA 98124-4018**

Summary

This report summarizes the fifth season of fish passage operations from 7/1/07 through 6/30/08 at the Landsburg Dam fish ladder and sorting facility on the Cedar River. Seattle Public Utilities (SPU) operated the ladder and sorting facility in sorting mode from 9/7/07 through 2/27/08 to prevent sockeye from passing above the Landsburg Dam and to aid in the collection of Chinook and coho salmon for recolonization studies. It was operated in passive mode from 7/1/07 – 9/4/07 and from 2/28/08 - 6/30/08, providing unhindered passage above the dam for all fish species. The facility was shut down for maintenance from 9/4/07 through 9/6/07 and from 5/11/08 through 5/16/08 (forebay cleaning). While in sorting mode a total of 831 adult sockeye entered the sorting facility, of which 179 were transported to the lower Cedar River and 620 were transported to the Cedar River Sockeye Hatchery for use as broodstock. A total of 397 adult Chinook salmon were passed above the dam from 9/10/07 to 10/27/07 and 142 adult coho were passed above the dam from 9/25/07 to 2/27/08. The sorting facility did experience some fish mortality, 33 sockeye salmon with a majority of the losses due to naturally occurring mortalities.

Forward

The construction of the fish ladder and sorting facility was completed as part of the comprehensive Cedar River Watershed Habitat Conservation Plan (HCP). The HCP was approved in the spring of 2000 and includes an extensive array of protective land management practices, instream flow management prescriptions, mitigation measures for the fish migration barrier at the Landsburg Diversion Dam and other habitat protection and restoration measures. The primary purpose of the HCP is to provide certainty for maintaining a safe and high quality drinking water source for the Seattle metropolitan area while protecting and restoring 83 species of fish and wildlife and the habitats upon which they depend in the Cedar River basin. As part of the HCP, SPU constructed a fish ladder and sorting facility to provide passage above the dam for all fish species in the Cedar River with the exception of sockeye salmon. Sockeye, which spawn in the Cedar River in much greater numbers than other fish species, are not passed above the dam because large numbers of decaying carcasses could pose a risk to drinking water quality and public health. The fish passage project successfully reopened more than 12.5 miles of mainstem and approximately 4.5 miles of tributary spawning and rearing habitat for the first time in more than 100 years.

Introduction

This 2008 annual report focuses on the operation of the Landsburg Dam fish ladder and sorting facility from 7/1/07 through 6/30/08. Additional information including previous year's reports can be found at the Fish Passage Website at:

http://www.seattle.gov/util/About_SPU/Water_System/Habitat_Conversation_Plan/FishPassageAbovethedam/index.htm

Fish Ladder Components

The fish ladder and sorting facility are composed of four main components the (1) lower ladder, (2) sorting and holding, (3) fish transport, and (4) upper ladder. The lower ladder includes three downward opening fish entrance gates, a series of 11 vertical slot steps in a channel that raises the water elevation in one-foot increments, and an adult guide panel gate. The adult guide panel gate swings on hinges and when it is open the ladder is in passive mode and when it is closed the ladder is in sorting mode. In general, the sorting and holding facility contain two holding ponds with mechanical crowders, a pescalator (fish lift), a sorting table, and a volitional bypass channel

with a fish trap. Holding pond one contains the v-trap, mechanical crowder, and the pescalator. Holding pond two contains a mechanical crowder and a wall that divides the pond lengthwise. The fish transport component contains a foot crowder, fish hopper, a 5-ton hoist, and parking area for the fish transport truck. The upper ladder contains 3 vertical slot steps, a fish counter, and the fish ladder exit. Figure 1 shows the schematic drawing of the fish ladder and sorting facility as well as a photograph of the sorting facility and Figure 2 shows the fish hopper on top of the fish transport truck.

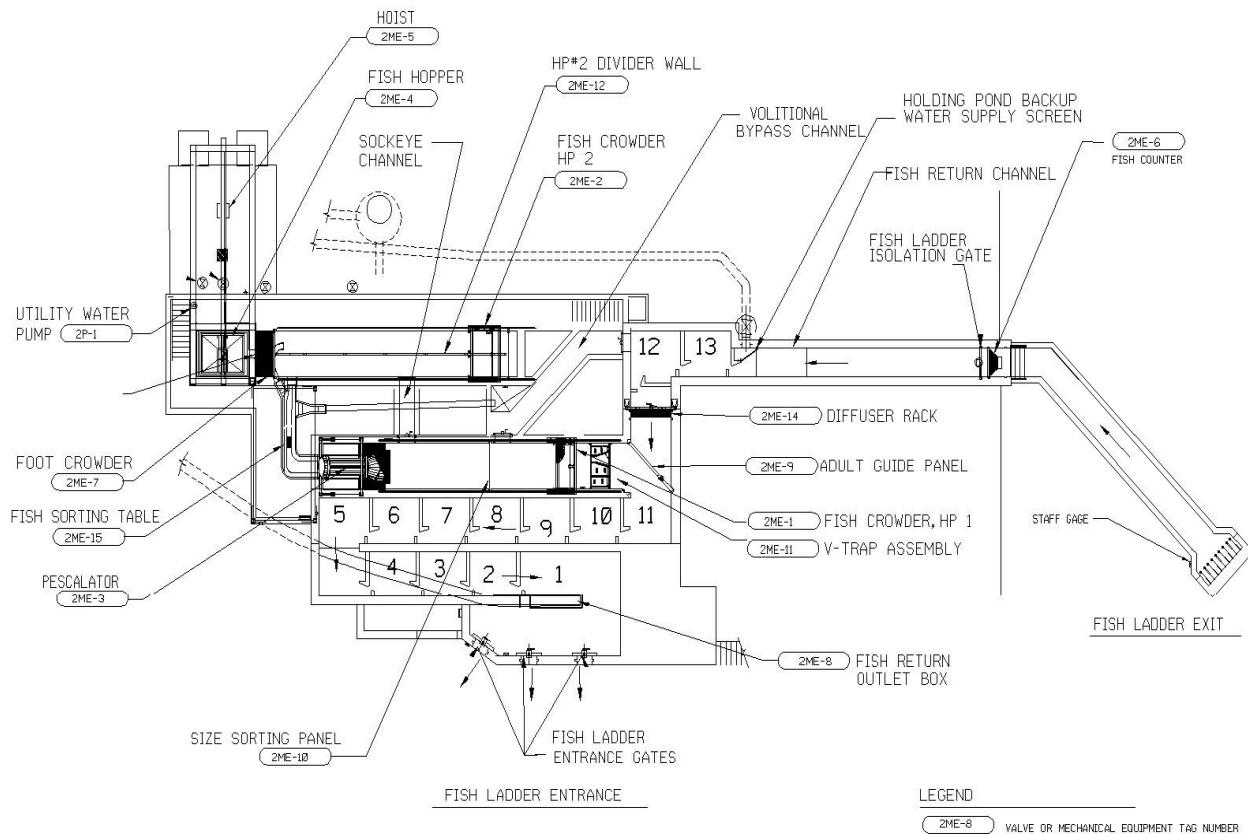


Figure 1: Layout of Landsburg Dam Fish Ladder and Sorting Facility

Methods and Procedures for Sorting Mode

The fish ladder and sorting facility were designed to operate in either sorting mode or passive mode. Sorting mode is used when sockeye are present at the ladder, typically from early September through December. In this mode, the crowder slowly moves fish to the upper part of pond one to the pescalator that raises the fish up and deposits them onto the sorting table. The sorting table (Fig. 2) provides a workstation to sort male and female sockeye into separate halves of holding pond two and move Chinook or coho into totes. To prepare sockeye for transport, a mechanical crowder in holding pond two crowds sockeye into a hopper which is raised with a 5-ton hoist and placed on a water filled tank on the fish truck. The hopper is designed to provide a water-to-water transfer of sockeye from the hopper to the fish truck (Figure 2).



Figure 2: Sorting table operation and fish hopper on top of fish transport truck.

Passive Mode

When the fish ladder is operated in passive mode, the adult guide panel is moved out of the way and fish are not allowed in the sorting facility and they move unhindered through the upper ladder and into the river above the dam. The ladder was designed to be operated in this mode from late December through August (the time period when sockeye are generally absent from the river). In this mode, a Vaki River Watcher fish counter is used to monitor fish passage. The system was installed to aid in the understanding of: run timing, the rate of passage upriver and the rate of recolonization of stream and river habitat in the watershed. The system uses a scanner to count fish and calculate length and an underwater camera to aid in species identification, sex, and document the presence or absence of the adipose fin.

Results and Discussion

Sorting Mode

This was the fourth year SPU created a special assignment for Drainage and Wastewater (DWW) Collection Workers to work at fish passage facility. This opportunity was developed to encourage cross training within SPU and to allow the fish passage project to recruit staff that would return to the project on an annual basis, limiting the training of new staff and developing an experienced technical staff. Three staff members from DWW worked at fish passage this season. Two on regular hours and one worked two days a week at fish passage while continuing to work with DWW three days a week. One DWW staff member has returned for a fourth straight year. From 9/5/07 through 9/10/07 the new fish passage crew received preseason training in fish species identification, fish handling, facility equipment, fish hauling, and safety procedures. The ladder was configured in sorting mode on 9/7/07 and was staffed 7 days per week with hours of operation ranging from 7:00 AM to 5:00 PM. Fish were sorted daily to minimize delay of upstream migrating Chinook and coho. In late October the staffing level was reduced to the Landsburg Fish Passage Manager and a DWW Lead Collection Worker. The sorting operation continued into February 27th to get a better understanding of the daily movement of coho within the ladder and to assist recolonization studies looking at coho movement and distribution within the watershed. The last fish through the ladder while in sorting mode was a coho on January 22nd. The fish camera was out of service until February 27th, at which time the fish ladder was configured into passive mode. Stream flows in the Cedar River (USGS gage 12117600 below Landsburg) during sorting mode ranged from 107 ft³/s to 1,230 ft³/s and the fish ladder operated as intended under these flow conditions. Ambient water temperature at Landsburg ranged from 3.9 to 13.1 °C during this period.

Sockeye

From 9/10/07 to 11/18/07 818 sockeye entered the facility and 228 females and 603 males were collected and hauled to the river or the sockeye hatchery, less a few mortalities. The daily peak of the sockeye migration at Landsburg occurred on 9/28/07 with 92 fish entering the facility (Table A2). Fish that entered the sorting facility were released back into the Cedar River or they were moved to Cedar River Sockeye Hatchery for use as broodstock. As shown in Table 1, the facility lost 33 (4%) sockeye with most loss attributed to naturally occurring mortality.

Table 1: Count of sockeye sorted, transported and mortality at the Landsburg Fish Passage Facility in 2007

	Entered Facility	Presort Mortality	Number Sorted	Post-sort Mortality	Transported to Hatchery	Transported to River	Total Mortality	Total Transported
Female	228	0	228	0	224	4	0	228
Male	604	1	603	32	396	175	33	571
Total	832	1	831	32	620	179	33	799

For the fifth year in a row, WDFW requested broodstock from the Landsburg fish ladder to spawn with fish held at the hatchery. This request was brought before the Anadromous Fish Committee (AFC) and members recommended that up to 1,000 sockeye or 20% of the broodstock for the hatchery could be collected from Landsburg. The fish passage operation provided 224 female and 396 male sockeye to the hatchery.

Chinook

Brood year 2007 marked the fifth year of a multi-year collaborative study to investigate and monitor the effects of recolonization by Chinook and coho on the Cedar River above the Landsburg Dam. Lead researchers included Peter Kiffney (NOAA), George Pess (NOAA), Joe Anderson (UW) and Tom Quinn (UW). To support the study fish passage staff collected biological data (presence/absence of adipose fin, sex, fork length and condition) and a dorsal fin clip from all adult Chinook passed above Landsburg. A small portion of each fin clip was preserved in 100% ethanol for future genetic parentage analysis. The fin clips were triangle shaped and approximately 15 mm wide at the base. The oversized clips provided staff with a mechanism to determine if the fish had already passed through the fish ladder. In 2007 one male Chinook (unclipped) recycled through the ladder.

Chinook salmon were passed upstream of the Landsburg Dam between 9/10/07 and 10/27/07. Table 2 shows that, of the 397 adult Chinook were passed upstream, a majority of the fish had adipose fins indicating that they were not of hatchery origin

Table 2: Summary of Chinook passed above the Landsburg Dam on the Cedar River, 2007

	Adipose Absent	Adipose Present	Total
Female	20	79	99
Male	73	225	298
Total	93	304	397

Coho

To support the recolonization study mentioned above, fish passage staff also collected biological data from all adult coho passed above Landsburg (same methods as with Chinook) and tissue samples for future DNA parentage analysis.

Table 3 shows that a total of 142 coho were passed upstream and that all but one of the fish had adipose fins, indicating that they were almost all of natural origin.

Table 3: Summary of Coho passed above the Landsburg Dam on the Cedar River, 2007/2008

	Adipose Absent	Adipose Present	Total
Female	0	53	53
Male	1	88	89
Total	1	141	142

Passive Mode

From 7/1/07 – 9/4/07 and from 2/28/08 - 6/30/08, the fish passage facility operated in passive mode providing fish unhindered passage above the Landsburg Dam. In passive mode, the Water Treatment Operators at Landsburg conducted routine inspections of the ladder facility to ensure there were no issues with debris. While in passive mode a Vaki River Watcher system installed in the upper ladder enumerated fish migrating upriver. The system was installed to aid in the understanding of run timing, the rate of passage upriver and the rate of recolonization of stream and river habitat in the watershed. The system is designed to count fish, calculate fish lengths, and take five photographs of each fish. A software package can be used to be display the photos alongside other data recorded by the system (i.e., date and time, fish depth, fish length, swimming direction, and water temperature). In some cases the imaging capabilities helped determine the species, sex, and if the fish had a clipped adipose fin. Stream flows in the Cedar River (USGS gage 12117600 below Landsburg) during passive mode ranged from 107 ft³/s to 2,680 ft³/s and the fish ladder operated as intended under these flow conditions. Ambient water temperature at Landsburg ranged from 4.4 to 16.1 °C during this period.

Fish Passed Upriver in Passive Mode

A total of 648 fish were enumerated with the Vaki River Watcher system in passive mode. Species identification was based on length estimates and photographic interpretation. Of that total, 312 were identified as trout with the peak of the trout migration in April 2008. Of the remaining 336 fish observed, these fish were determined to be either whitefish or trout, whitefish, salmonid, undecided, and coho or trout (Table 4).

Table 4: Summary of species passed above the Landsburg Dam on the Cedar River while in passive mode in 2007/2008

Month	Trout	Whitefish or Trout	Whitefish	Salmonid	Undecided	Coho or Trout	Grand Total
July 2007	36	3	1	2			42
August 2007	54	12		23			89
September 2007	6			1			7
February 2008	5					1	6
March 2008	55	30	2		3	7	97
April 2008	115	94	29				238
May 2008	7	87	1				95
June 2008	34	37	3				74
Grand Total	312	263	36	26	3	8	648

Fish Passage Facility Improvements Completed in 2007

Throughout the fall and winter of 2007, the fish passage staff made changes to the facility that improved worker safety, job efficiency, and fish handling.

- Added a new fish release chute at the forebay for Chinook, coho and trout.
- Installed several new fish totes.
- Smoothed out rough/sharp areas that could damage fish throughout the facility.
- A new roof was placed over the pescalator and pond #2 foot crowder areas.

Conclusions

For the 2007-2008 season (7/1/07-6/30/08), the fish ladder and sorting facility operated as intended and provided SPU and researchers with a unique opportunity to participate in long-term recolonization studies and collect biological data on Chinook and coho salmon and trout passed above the Landsburg.

Recommendations

In future years the fish ladder and sorting facility should continue to focus on:

- Providing a safe, efficient, and timely passage for all fish species (with the exception of sockeye) over the Landsburg Dam
- Providing a safe, efficient, and timely trap and haul operation for sockeye
- Handling fish with great care and limit the use of nets when handling fish
- Monitoring, evaluating, and maintaining the facility to reduce or limit fish mortality
- Collect relevant data from upstream migrating adult salmon to help monitor various qualitative and quantitative aspects of salmon recolonization upstream of the Landsburg.
- Providing a safe working environment for staff
- Make improvements to facility to ensure long term reliability of equipment

Acknowledgements

Fish passage staff from the Drainage and Wastewater Division (in particular John McDowell) for operating the ladder and sorting facility. Bruce Bachen and Gary Sprague for supporting improvements to the fish ladder and sorting facility and for their constructive comments on this report.

Sockeye sorted, transported and mortality at the Landsburg Fish Passage Facility in 2007

Date	Sockeye Female Presort Mortality	Sockeye Male Presort Mortality	Sockeye Female Sorted	Sockeye Male Sorted	Sockeye Female Postsort Mortality	Sockeye Male Postsort Mortality	Sockeye Female to Hatchery	Sockeye Male to Hatchery	Sockeye Female to RM 6.5	Sockeye Male to RM 6.5
9/10/07			2	4						
9/11/07			0	0						
9/12/07			1	0						
9/13/07			4	2						
9/14/07			3	5						
9/15/07			3	5						
9/16/07			0	0						
9/17/07			12	22						
9/18/07			8	29						
9/19/07			7	13		2	33	65		
9/20/07			1	1						
9/21/07			4	10						
9/22/07			4	8						
9/23/07			2	3			18	35		
9/24/07			3	10						
9/25/07			2	17						
9/26/07			2	5						
9/27/07			1	3						
9/28/07			37	55						
9/29/07			8	19			53	109		
9/30/07			6	10						
10/1/07			16	35						
10/2/07			1	10	19					
10/3/07			8	21						
10/4/07			3	6			40			
10/5/07			0	6						
10/6/07			0	6						
10/7/07			5	13						
10/8/07			8	24		4				
10/9/07			5	26		4	16	40		60
10/10/07			31	61						
10/11/07			2	9		8	36	106		
10/12/07			0	1						
10/13/07			6	23						
10/14/07			0	0						
10/15/07			2	7		3				
10/16/07			1	7		1				
10/17/07			1	7		1				
10/18/07			1	3		2	12			
10/19/07			2	13		2				66
10/20/07			8	15		1				

Date	Sockeye Female Presort Mortality	Sockeye Male Presort Mortality	Sockeye Female Sorted	Sockeye Male Sorted	Sockeye Female Postsort Mortality	Sockeye Male Postsort Mortality	Sockeye Female to Hatchery	Sockeye Male to Hatchery	Sockeye Female to RM 6.5	Sockeye Male to RM 6.5
10/21/07			1	12		2	12	24		
10/22/07			1	13						
10/23/07			1	5						
10/24/07			0	0						
10/25/07			0	0						
10/26/07			0	0						
10/27/07			0	0						
10/28/07			0	0		1	2	17		
10/29/07			0	0						
10/30/07			0	0						
10/31/07			0	0						
11/1/07			0	0						
11/2/07			0	4						
11/3/07			0	0						
11/4/07			0	0						
11/5/07			0	0						
11/6/07			0	5						
11/7/07			0	0						
11/8/07			0	0						
11/9/07			0	0						
11/10/07			0	0						
11/11/07			0	0						
11/12/07			0	0						
11/13/07			2	24		1	2			
11/14/07			0	0						
11/15/07			0	0						
11/16/07			4	14						
11/17/07			0	0						
11/18/07			0	3					4	49
Subtotal	0	1	228	603	0	32	224	396	4	175
Total		1		831		32		620		179

Chinook and coho passed above the Landsburg Dam on the Cedar River, 2007-08

Sample Number	Species	Date Sampled and Released	Fork Length (mm)	Sex	Adipose (p=present, a=absent)
4701	Chinook	09/10/07	670	m	p
4702	Chinook	09/12/07	970	m	p
4703	Chinook	09/13/07	950	f	a
4704	Chinook	09/14/07	880	m	p
4705	Chinook	09/14/07	790	m	p
4706	Chinook	09/14/07	850	m	p
4707	Chinook	09/15/07	840	f	p
4708	Chinook	09/18/07	700	m	p
4709	Chinook	09/18/07	600	m	p
4710	Chinook	09/18/07	860	f	p
4711	Chinook	09/18/07	810	m	p
4712	Chinook	09/18/07	780	m	p
4713	Chinook	09/18/07	700	m	p
4714	Chinook	09/18/07	970	m	a
4715	Chinook	09/18/07	740	m	a
4716	Chinook	09/18/07	830	m	p
4717	Chinook	09/18/07	780	m	p
4718	Chinook	09/18/07	740	m	p
4719	Chinook	09/18/07	830	m	p
4720	Chinook	09/18/07	700	f	p
4721	Chinook	09/18/07	730	m	p
4722	Chinook	09/19/07	730	m	p
4723	Chinook	09/19/07	850	m	p
4724	Chinook	09/19/07	890	m	p
4725	Chinook	09/19/07	950	m	a
4726	Chinook	09/19/07	720	m	p
4727	Chinook	09/19/07	950	m	p
4728	Chinook	09/20/07	730	m	p
4729	Chinook	09/20/07	820	m	p
4730	Chinook	09/20/07	790	m	p
4731	Chinook	09/20/07	950	m	p
4732	Chinook	09/20/07	940	m	p
4733	Chinook	09/20/07	950	f	p
4734	Chinook	09/20/07	980	m	p
4735	Chinook	09/21/07	620	m	p
4736	Chinook	09/21/07	940	f	p
4737	Chinook	09/21/07	820	m	p
4738	Chinook	09/21/07	890	m	p
4739	Chinook	09/21/07	760	f	p
4740	Chinook	09/21/07	780	m	p
4741	Chinook	09/21/07	890	f	p
4742	Chinook	09/21/07	900	m	p
4743	Chinook	09/21/07	800	f	p
4744	Chinook	09/21/07	670	m	p
4745	Chinook	09/21/07	720	m	p
4746	Chinook	09/21/07	790	m	a

Sample Number	Species	Date Sampled and Released	Fork Length (mm)	Sex	Adipose (p=present, a=absent)
4747	Chinook	09/21/07	900	f	a
4748	Chinook	09/22/07	790	m	a
4749	Chinook	09/22/07	840	m	p
4750	Chinook	09/22/07	840	m	a
4751	Chinook	09/22/07	850	m	p
4752	Chinook	09/22/07	790	m	p
4753	Chinook	09/22/07	680	m	p
4754	Chinook	09/22/07	810	m	p
4755	Chinook	09/22/07	790	f	p
4756	Chinook	09/22/07	910	m	a
4757	Chinook	09/22/07	790	m	p
4758	Chinook	09/22/07	680	m	p
4759	Chinook	09/22/07	710	m	p
4760	Chinook	09/22/07	780	m	a
4761	Chinook	09/22/07	570	m	p
4762	Chinook	09/22/07	730	m	p
4763	Chinook	09/22/07	800	f	p
4764	Chinook	09/22/07	690	m	p
4765	Chinook	09/22/07	870	m	p
4766	Chinook	09/22/07	770	f	a
4767	Chinook	09/22/07	670	m	p
4768	Chinook	09/23/07	900	m	p
4769	Chinook	09/23/07	780	m	p
4770	Chinook	09/23/07	920	m	p
4771	Chinook	09/23/07	810	m	p
4772	Chinook	09/23/07	760	m	a
4773	Chinook	09/23/07	970	m	p
4774	Chinook	09/23/07	890	m	p
4775	Chinook	09/23/07	740	m	p
4776	Chinook	09/23/07	830	m	p
4777	Chinook	09/23/07	730	m	a
4778	Chinook	09/23/07	820	f	p
4779	Chinook	09/23/07	790	f	p
4780	Chinook	09/23/07	910	m	p
4781	Chinook	09/23/07	770	f	p
4782	Chinook	09/23/07	920	m	p
4783	Chinook	09/23/07	770	m	p
4784	Chinook	09/23/07	930	f	p
4785	Chinook	09/23/07	810	m	p
4786	Chinook	09/23/07	780	m	p
4787	Chinook	09/23/07	800	m	a
4788	Chinook	09/23/07	840	m	p
4789	Chinook	09/23/07	790	f	p
4790	Chinook	09/23/07	710	f	a
4791	Chinook	09/24/07	800	m	p
4792	Chinook	09/24/07	950	f	p
4793	Chinook	09/24/07	870	m	a

Sample Number	Species	Date Sampled and Released	Fork Length (mm)	Sex	Adipose (p=present, a=absent)
4794	Chinook	09/24/07	780	m	p
4795	Chinook	09/24/07	810	m	p
4796	Chinook	09/24/07	860	f	p
4797	Chinook	09/24/07	820	m	p
4798	Chinook	09/24/07	900	m	p
4799	Chinook	09/24/07	880	m	p
4800	Chinook	09/24/07	620	m	p
4801	Chinook	09/24/07	780	m	p
4802	Chinook	09/24/07	710	f	p
4803	Chinook	09/24/07	930	m	p
4804	Coho	09/25/07	530	m	p
4805	Chinook	09/25/07	790	m	p
4806	Chinook	09/25/07	810	m	a
4807	Chinook	09/25/07	810	f	p
4808	Chinook	09/25/07	960	m	p
4809	Chinook	09/25/07	770	m	p
4810	Chinook	09/25/07	820	f	p
4811	Chinook	09/25/07	840	f	p
4812	Chinook	09/25/07	850	f	a
4813	Chinook	09/25/07	740	m	p
4814	Chinook	09/25/07	560	m	p
4815	Chinook	09/25/07	460	m	a
4816	Chinook	09/25/07	700	m	a
4817	Chinook	09/25/07	830	m	p
4818	Chinook	09/25/07	850	m	a
4819	Chinook	09/25/07	840	m	p
4820	Chinook	09/25/07	900	m	p
4821	Chinook	09/26/07	870	m	p
4822	Chinook	09/26/07	740	m	p
4823	Chinook	09/26/07	790	f	a
4824	Chinook	09/26/07	790	m	a
4825	Chinook	09/26/07	800	f	p
4826	Chinook	09/26/07	880	m	a
4827	Chinook	09/26/07	570	m	p
4828	Chinook	09/26/07	740	f	p
4829	Chinook	09/26/07	760	m	p
4830	Chinook	09/26/07	830	m	p
4831	Chinook	09/26/07	780	f	p
4832	Chinook	09/27/07	720	m	p
4833	Chinook	09/27/07	770	m	a
4834	Chinook	09/27/07	750	m	p
4835	Chinook	09/27/07	1000	m	p
4836	Chinook	09/27/07	840	f	a
4837	Chinook	09/27/07	840	m	p
4838	Chinook	09/27/07	780	f	a
4839	Chinook	09/27/07	950	f	p
4840	Chinook	09/27/07	860	m	a

Sample Number	Species	Date Sampled and Released	Fork Length (mm)	Sex	Adipose (p=present, a=absent)
4841	Chinook	09/27/07	940	m	p
4842	Chinook	09/27/07	750	m	p
4843	Chinook	09/27/07	760	m	p
4844	Chinook	09/27/07	710	m	p
4845	Chinook	09/27/07	790	m	a
4846	Chinook	09/27/07	770	f	p
4847	Chinook	09/27/07	800	f	p
4848	Chinook	09/27/07	910	m	p
4849	Chinook	09/27/07	920	m	p
4850	Chinook	09/27/07	880	m	p
4851	Chinook	09/27/07	1000	f	p
4852	Chinook	09/27/07	770	f	p
4853	Chinook	09/27/07	690	m	p
4854	Chinook	09/28/07	880	m	p
4855	Chinook	09/28/07	830	m	p
4856	Chinook	09/28/07	720	f	p
4857	Chinook	09/28/07	750	m	p
4858	Chinook	09/28/07	780	f	p
4859	Chinook	09/28/07	940	f	p
4860	Chinook	09/28/07	790	m	a
4861	Chinook	09/28/07	890	m	p
4862	Chinook	09/28/07	680	m	p
4863	Chinook	09/28/07	780	m	p
4864	Chinook	09/28/07	750	m	p
4865	Chinook	09/28/07	770	f	p
4866	Chinook	09/28/07	760	m	a
4867	Chinook	09/28/07	820	f	a
4868	Chinook	09/28/07	840	m	p
4869	Chinook	09/28/07	720	m	a
4870	Chinook	09/28/07	940	m	p
4871	Chinook	09/28/07	850	m	p
4872	Chinook	09/28/07	830	m	p
4873	Chinook	09/28/07	700	m	p
4874	Chinook	09/28/07	720	m	p
4875	Chinook	09/28/07	920	m	p
4876	Chinook	09/28/07	780	m	p
4877	Chinook	09/28/07	1010	f	p
4878	Chinook	09/28/07	780	f	p
4879	Chinook	09/28/07	750	f	p
4880	Chinook	09/29/07	830	m	p
4881	Chinook	09/29/07	760	m	p
4882	Chinook	09/29/07	870	m	a
4883	Chinook	09/29/07	890	m	p
4884	Chinook	09/29/07	710	f	p
4885	Chinook	09/29/07	890	m	p
4886	Chinook	09/29/07	810	f	p
4887	Chinook	09/30/07	920	m	p

Sample Number	Species	Date Sampled and Released	Fork Length (mm)	Sex	Adipose (p=present, a=absent)
4888	Chinook	09/30/07	1010	m	a
4889	Chinook	09/30/07	920	f	p
4890	Chinook	09/30/07	770	m	p
4891	Chinook	09/30/07	820	m	a
4892	Chinook	09/30/07	780	m	p
4893	Chinook	09/30/07	870	m	p
4894	Chinook	09/30/07	770	m	p
4895	Chinook	09/30/07	730	m	p
4896	Chinook	09/30/07	750	m	p
4897	Chinook	09/30/07	720	f	a
4898	Chinook	09/30/07	970	m	p
4899	Chinook	09/30/07	810	m	p
4900	Chinook	09/30/07	720	f	p
4901	Chinook	09/30/07	820	m	p
4902	Chinook	09/30/07	830	m	p
4903	Chinook	09/30/07	900	f	p
4904	Chinook	09/30/07	740	f	p
4905	Chinook	09/30/07	800	m	p
4906	Chinook	09/30/07	770	m	p
4907	Chinook	10/01/07	790	m	a
4908	Chinook	10/01/07	850	m	p
4909	Chinook	10/01/07	740	m	a
4910	Chinook	10/01/07	820	m	a
4911	Chinook	10/01/07	800	m	p
4912	Chinook	10/01/07	780	m	p
4913	Chinook	10/01/07	800	m	a
4914	Chinook	10/01/07	790	m	p
4915	Chinook	10/01/07	800	m	p
4916	Chinook	10/01/07	950	f	p
4917	Chinook	10/01/07	930	f	p
4918	Chinook	10/01/07	800	f	p
4919	Chinook	10/01/07	880	m	p
4920	Chinook	10/01/07	790	f	p
4921	Chinook	10/01/07	810	m	a
4922	Chinook	10/01/07	980	f	p
4923	Chinook	10/01/07	910	f	p
4924	Chinook	10/01/07	800	m	p
4925	Chinook	10/01/07	900	f	p
4926	Chinook	10/01/07	740	m	p
4927	Chinook	10/01/07	750	m	p
4928	Chinook	10/01/07	910	m	p
4929	Chinook	10/01/07	920	m	a
4930	Chinook	10/01/07	900	m	p
4931	Chinook	10/01/07	870	m	p
4932	Chinook	10/01/07	770	m	p
4933	Chinook	10/01/07	810	f	p
4934	Chinook	10/01/07	795	m	p

Sample Number	Species	Date Sampled and Released	Fork Length (mm)	Sex	Adipose (p=present, a=absent)
4935	Chinook	10/01/07	720	m	p
4936	Chinook	10/01/07	590	m	a
4937	Coho	10/01/07	420	m	p
4938	Coho	10/01/07	410	m	p
4939	Coho	10/01/07	560	f	p
4940	Chinook	10/01/07	710	f	p
4941	Chinook	10/01/07	650	m	a
4942	Chinook	10/01/07	710	f	p
4943	Chinook	10/02/07	730	f	p
4944	Coho	10/02/07	650	m	p
4945	Chinook	10/02/07	590	m	p
4946	Chinook	10/02/07	890	m	p
4947	Chinook	10/02/07	650	m	a
4948	Chinook	10/02/07	760	m	p
4949	Chinook	10/02/07	950	m	p
4950	Chinook	10/02/07	730	f	a
4951	Chinook	10/02/07	500	m	p
4952	Chinook	10/02/07	810	m	a
4953	Chinook	10/02/07	810	m	a
4954	Chinook	10/02/07	900	m	p
4955	Chinook	10/02/07	780	m	a
4956	Chinook	10/02/07	850	m	p
4957	Chinook	10/02/07	870	m	p
4958	Chinook	10/02/07	830	m	a
4959	Chinook	10/02/07	790	f	a
4960	Chinook	10/02/07	830	m	p
4961	Coho	10/02/07	570	m	p
4962	Chinook	10/03/07	930	f	p
4963	Chinook	10/03/07	860	f	p
4964	Chinook	10/03/07	890	m	p
4965	Chinook	10/03/07	730	m	p
4966	Chinook	10/03/07	760	m	p
4967	Chinook	10/03/07	810	f	p
4968	Chinook	10/03/07	750	m	p
4969	Chinook	10/03/07	690	m	p
4970	Chinook	10/03/07	920	m	p
4971	Chinook	10/03/07	740	m	a
4972	Chinook	10/03/07	820	m	p
4973	Coho	10/03/07	610	m	p
4974	Chinook	10/03/07	750	m	p
4975	Chinook	10/03/07	810	m	p
4976	Chinook	10/03/07	910	m	p
4977	Chinook	10/03/07	800	m	p
4978	Chinook	10/03/07	770	m	p
4979	Chinook	10/03/07	780	m	p
4980	Chinook	10/03/07	770	f	a
4981	Chinook	10/04/07	860	f	p

Sample Number	Species	Date Sampled and Released	Fork Length (mm)	Sex	Adipose (p=present, a=absent)
4982	Chinook	10/04/07	860	m	a
4983	Chinook	10/04/07	840	m	p
4984	Chinook	10/04/07	780	m	p
4985	Chinook	10/04/07	840	m	p
4986	Chinook	10/04/07	770	m	p
4987	Chinook	10/04/07	840	f	p
4988	Coho	10/04/07	720	m	p
4989	Chinook	10/04/07	800	m	p
4990	Chinook	10/04/07	760	f	p
4991	Chinook	10/04/07	760	m	p
4992	Chinook	10/04/07	980	m	p
4993	Chinook	10/04/07	830	m	a
4994	Chinook	10/04/07	820	m	p
4995	Chinook	10/04/07	800	m	p
4996	Chinook	10/04/07	900	m	p
4997	Chinook	10/04/07	830	m	a
4998	Coho	10/04/07	490	m	p
4999	Chinook	10/04/07	840	m	p
5000	Coho	10/04/07	510	f	p
5001	Chinook	10/04/07	760	m	a
5002	Chinook	10/04/07	770	m	p
5003	Chinook	10/04/07	770	m	a
5004	Chinook	10/04/07	810	m	p
5005	Chinook	10/04/07	730	m	p
5006	Chinook	10/04/07	850	m	p
5007	Chinook	10/04/07	880	m	a
5008	Chinook	10/04/07	910	f	p
5009	Chinook	10/04/07	790	f	p
5010	Chinook	10/04/07	920	f	p
5011	Chinook	10/04/07	750	m	a
5012	Chinook	10/04/07	740	f	a
5013	Chinook	10/04/07	830	m	p
5014	Chinook	10/05/07	870	m	p
5015	Chinook	10/05/07	830	f	a
5016	Chinook	10/05/07	830	m	p
5017	Chinook	10/05/07	840	m	a
5018	Chinook	10/05/07	770	m	p
5019	Chinook	10/05/07	740	f	p
5020	Chinook	10/05/07	810	m	a
5021	Chinook	10/06/07	910	m	a
5022	Chinook	10/06/07	720	m	p
5023	Chinook	10/06/07	830	m	p
5024	Chinook	10/06/07	720	m	a
5025	Chinook	10/06/07	810	f	a
5026	Chinook	10/06/07	850	f	p
5027	Chinook	10/06/07	830	m	p
5028	Chinook	10/06/07	870	m	p

Sample Number	Species	Date Sampled and Released	Fork Length (mm)	Sex	Adipose (p=present, a=absent)
5029	Chinook	10/06/07	860	m	p
5030	Chinook	10/06/07	800	f	a
5031	Chinook	10/06/07	910	m	p
5032	Chinook	10/06/07	880	f	p
5033	Chinook	10/06/07	830	m	a
5034	Chinook	10/06/07	920	m	p
5035	Chinook	10/07/07	790	m	p
5036	Chinook	10/07/07	880	f	p
5037	Chinook	10/07/07	900	f	p
5038	Chinook	10/07/07	720	f	p
5039	Chinook	10/07/07	720	m	p
5040	Coho	10/07/07	650	f	p
5041	Chinook	10/07/07	850	m	p
5042	Chinook	10/07/07	950	m	p
5043	Chinook	10/07/07	570	m	a
5044	Chinook	10/07/07	840	f	a
5045	Chinook	10/07/07	820	m	a
5046	Chinook	10/07/07	740	m	a
5047	Chinook	10/08/07	710	m	p
5048	Chinook	10/08/07	730	f	p
5050	Chinook	10/08/07	570	m	a
5051	Chinook	10/08/07	860	m	a
5052	Chinook	10/08/07	830	m	p
5053	Chinook	10/08/07	870	m	p
5054	Chinook	10/08/07	910	f	p
5055	Chinook	10/08/07	840	m	a
5056	Chinook	10/08/07	560	m	a
5057	Chinook	10/09/07	830	m	p
5058	Chinook	10/09/07	860	m	a
5059	Chinook	10/09/07	690	m	p
5060	Chinook	10/09/07	890	m	a
5061	Chinook	10/09/07	830	f	p
5062	Coho	10/09/07	390	m	p
5063	Coho	10/09/07	530	m	p
5064	Coho	10/09/07	590	m	p
5065	Chinook	10/09/07	840	m	a
5066	Chinook	10/09/07	840	m	p
5067	Chinook	10/09/07	850	m	p
5068	Chinook	10/09/07	840	m	p
5069	Chinook	10/09/07	800	f	p
5070	Chinook	10/09/07	660	m	p
5071	Chinook	10/09/07	860	m	p
5072	Chinook	10/09/07	490	m	a
5073	Chinook	10/09/07	590	m	a
5074	Chinook	10/09/07	920	f	p
5075	Chinook	10/10/07	790	m	p
5076	Chinook	10/10/07	750	m	a

Sample Number	Species	Date Sampled and Released	Fork Length (mm)	Sex	Adipose (p=present, a=absent)
5077	Chinook	10/10/07	760	m	a
5078	Chinook	10/10/07	470	m	p
5079	Coho	10/10/07	640	m	p
5080	Coho	10/11/07	480	m	p
5081	Chinook	10/11/07	830	m	p
5082	Chinook	10/11/07	890	f	p
5083	Chinook	10/11/07	970	m	p
5084	Coho	10/11/07	540	m	p
5085	Chinook	10/11/07	790	m	p
5086	Chinook	10/11/07	1020	m	p
5087	Chinook	10/12/07	760	f	p
5088	Chinook	10/12/07	810	f	p
5089	Chinook	10/12/07	760	m	p
5090	Chinook	10/12/07	730	m	p
5091	Chinook	10/12/07	720	f	p
5092	Chinook	10/12/07	980	m	p
5093	Chinook	10/13/07	560	m	p
5094	Coho	10/15/07	510	m	a
5095	Chinook	10/15/07	750	m	p
5096	Chinook	10/16/07	840	m	p
5097	Chinook	10/16/07	800	m	p
5098	Coho	10/16/07	480	m	p
5099	Chinook	10/16/07	710	f	p
5100	Chinook	10/16/07	680	m	p
7001	Coho	10/17/07	410	m	p
7002	Chinook	10/17/07	480	m	a
7003	Chinook	10/17/07	970	m	p
7004	Coho	10/19/07	440	m	p
7005	Chinook	10/21/07	850	m	a
7006	Chinook	10/21/07	870	m	p
7007	Chinook	10/22/07	380	m	a
7008	Chinook	10/23/07	920	m	a
7009	Chinook	10/23/07	720	m	p
7010	Chinook	10/23/07	860	f	a
7011	Chinook	10/23/07	830	m	a
7012	Chinook	10/27/07	780	m	p
7013	Chinook	10/27/07	800	m	p
7014	Chinook	10/27/07	760	m	a
7015	Chinook	10/27/07	940	f	a
7016	Chinook	10/27/07	770	m	p
7017	Chinook	10/27/07	820	m	p
7018	Chinook	10/27/07	890	f	p
7019	Chinook	10/27/07	790	m	p
7020	coho	11/14/07	340	m	p
7021	coho	11/14/07	590	f	p
7022	coho	11/14/07	400	m	p
7023	coho	11/14/07	470	m	p

Sample Number	Species	Date Sampled and Released	Fork Length (mm)	Sex	Adipose (p=present, a=absent)
7024	coho	11/14/07	560	m	p
7025	coho	11/14/07	680	f	p
7026	coho	11/14/07	580	m	p
7027	coho	11/14/07	630	m	p
7028	coho	11/14/07	600	m	p
7029	coho	11/14/07	560	m	p
7030	coho	11/18/07	650	m	p
7031	coho	11/18/07	720	f	p
7032	coho	11/18/07	640	m	p
7033	coho	11/18/07	540	m	p
7034	coho	11/18/07	630	f	p
7035	coho	11/20/07	830	m	p
7036	coho	11/20/07	635	f	p
7037	coho	11/20/07	615	f	p
7038	coho	11/20/07	610	m	p
7039	coho	11/20/07	510	f	p
7040	coho	11/21/07	660	m	p
7041	coho	11/21/07	680	f	p
7042	coho	11/28/07	640	f	p
7043	coho	11/28/07	720	f	p
7044	coho	12/05/07	480	m	p
7045	coho	12/05/07	580	f	p
7046	coho	12/05/07	680	f	p
7047	coho	12/05/07	650	f	p
7048	coho	12/05/07	630	m	p
7049	coho	12/05/07	630	f	p
7050	coho	12/05/07	570	m	p
7051	coho	12/05/07	590	f	p
7052	coho	12/05/07	690	f	p
7053	coho	12/05/07	680	f	p
7054	coho	12/05/07	570	m	p
7055	coho	12/05/07	590	f	p
7056	coho	12/05/07	790	m	p
7057	coho	12/05/07	690	f	p
7058	coho	12/05/07	660	m	p
7059	coho	12/05/07	720	m	p
7060	coho	12/05/07	580	m	p
7061	coho	12/06/07	680	f	p
7062	coho	12/06/07	560	f	p
7063	coho	12/06/07	610	m	p
7064	coho	12/06/07	600	m	p
7065	coho	12/06/07	630	m	p
7066	coho	12/06/07	670	m	p
7067	coho	12/06/07	740	m	p
7068	coho	12/06/07	600	m	p
7069	coho	12/06/07	660	m	p
7070	coho	12/09/07	700	f	p

Sample Number	Species	Date Sampled and Released	Fork Length (mm)	Sex	Adipose (p=present, a=absent)
7071	coho	12/09/07	800	m	p
7072	coho	12/11/07	670	f	p
7073	coho	12/11/07	640	f	p
7074	coho	12/11/07	540	m	p
7075	coho	12/12/07	570	f	p
7076	coho	12/12/07	630	m	p
7077	coho	12/13/07	710	m	p
7078	coho	12/13/07	600	f	p
7079	coho	12/13/07	510	m	p
7080	coho	12/15/07	660	f	p
7081	coho	12/15/07	640	f	p
7082	coho	12/15/07	610	m	p
7083	coho	12/15/07	700	m	p
7084	coho	12/15/07	730	m	p
7085	coho	12/15/07	710	m	p
7086	coho	12/15/07	720	f	p
7087	coho	12/17/07	640	f	p
7088	coho	12/17/07	570	m	p
7089	coho	12/17/07	520	f	p
7090	coho	12/18/07	730	f	p
7091	coho	12/18/07	600	m	p
7092	coho	12/19/07	710	f	p
7093	coho	12/19/07	780	m	p
7094	coho	12/19/07	810	m	p
7095	coho	12/21/07	615	m	p
7096	coho	12/21/07	730	m	p
7097	coho	12/21/07	640	f	p
7098	coho	12/21/07	600	m	p
7099	coho	12/21/07	650	f	p
7100	coho	12/21/07	580	m	p
7101	coho	12/21/07	600	f	p
7102	coho	12/24/07	360	m	p
7103	coho	12/24/07	680	f	p
7104	coho	12/24/07	770	m	p
7105	coho	12/24/07	700	m	p
7106	coho	12/24/07	680	f	p
7107	coho	12/24/07	650	m	p
7108	coho	12/24/07	730	m	p
7109	coho	12/24/07	530	m	p
7110	coho	12/24/07	600	m	p
7111	coho	12/24/07	720	m	p
7112	coho	12/24/07	580	m	p
7113	coho	12/31/07	540	m	p
7114	coho	12/31/07	660	f	p
7115	coho	01/07/08	620	f	p
7116	coho	01/07/08	460	m	p
7117	coho	01/07/08	650	f	p

Sample Number	Species	Date Sampled and Released	Fork Length (mm)	Sex	Adipose (p=present, a=absent)
7118	coho	01/07/08	640	f	p
7119	coho	01/07/08	580	f	p
7120	coho	01/09/08	630	f	p
7121	coho	01/09/08	610	f	p
7122	coho	01/09/08	660	f	p
7123	coho	01/14/08	720	m	p
7124	coho	01/14/08	680	m	p
7125	coho	01/14/08	660	m	p
7126	coho	01/14/08	730	m	p
7127	coho	01/14/08	650	m	p
7128	coho	01/14/08	660	m	p
7129	coho	01/14/08	600	m	p
7130	coho	01/14/08	780	m	p
7131	coho	01/14/08	620	f	p
7132	coho	01/14/08	540	f	p
7133	coho	01/17/08	650	f	p
7134	coho	01/17/08	730	m	p
7135	coho	01/17/08	800	m	p
7136	coho	01/17/08	620	f	p
7137	coho	01/17/08	600	m	p
7138	coho	01/17/08	730	m	p
7139	coho	01/17/08	780	m	p
7140	coho	01/22/08	690	m	p

All species passed above the Landsburg Dam on the Cedar River in passive mode, 2007/08

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
7/1/07 10:54 PM	60	36	Trout
7/2/07 6:45 PM	60	36	Trout
7/2/07 9:07 PM	55	33	Trout
7/4/07 8:34 AM	70	42	Trout
7/4/07 3:34 PM	45	27	Trout
7/4/07 9:03 PM	57	34	Trout
7/5/07 8:31 PM	57	34	Trout
7/6/07 7:10 PM	50	30	Trout
7/8/07 6:36 PM	55	33	Whitefish or Trout
7/9/07 8:48 PM	50	30	Trout
7/10/07 12:50 AM	125	75	Salmonid
7/10/07 7:27 PM	50	30	Whitefish or Trout
7/10/07 9:24 PM	40	24	Trout
7/11/07 12:35 PM	55	33	Trout
7/11/07 4:08 PM	50	30	Trout
7/11/07 6:46 PM	60	36	Whitefish
7/12/07 1:58 AM	116	69	Salmonid

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
7/12/07 11:24 AM	42	25	Trout
7/12/07 4:19 PM	45	27	Trout
7/12/07 11:04 PM	60	36	Whitefish or Trout
7/13/07 9:10 PM	60	36	Trout
7/14/07 4:03 PM	47	28	Trout
7/14/07 9:09 PM	60	36	Trout
7/15/07 12:29 PM	47	28	Trout
7/15/07 1:17 PM	42	25	Trout
7/15/07 8:58 PM	57	34	Trout
7/16/07 8:23 PM	40	24	Trout
7/21/07 2:57 PM	50	30	Trout
7/21/07 8:48 PM	57	34	Trout
7/22/07 4:51 PM	47	28	Trout
7/25/07 8:57 PM	55	33	Trout
7/26/07 5:49 PM	32	19	Trout
7/26/07 8:53 PM	55	33	Trout
7/27/07 6:08 AM	57	34	Trout
7/27/07 1:15 PM	62	37	Trout
7/27/07 10:32 PM	52	31	Trout
7/28/07 10:33 PM	60	36	Trout
7/29/07 9:45 PM	60	36	Trout
7/30/07 1:06 AM	37	22	Trout
7/30/07 9:23 PM	35	21	Trout
7/30/07 10:45 PM	57	34	Trout
7/31/07 7:17 PM	35	21	Trout
8/1/07 9:41 PM	62	37	Trout
8/2/07 12:45 AM	113	67	Salmonid
8/2/07 9:15 PM	60	36	Trout
8/3/07 9:20 PM	57	34	Trout
8/4/07 9:22 PM	60	36	Trout
8/5/07 3:03 AM	105	63	Salmonid
8/5/07 11:25 AM	65	39	Trout
8/5/07 6:53 PM	37	22	Trout
8/5/07 9:10 PM	57	34	Trout
8/6/07 10:41 AM	42	25	Trout
8/6/07 4:54 PM	37	22	Trout
8/6/07 7:40 PM	40	24	Trout
8/6/07 8:56 PM	40	24	Trout
8/8/07 9:42 AM	45	27	Whitefish or Trout
8/8/07 8:29 PM	47	28	Trout
8/10/07 9:24 PM	57	34	Trout
8/11/07 9:30 PM	60	36	Trout
8/12/07 9:14 PM	55	33	Trout
8/13/07 9:33 PM	52	31	Trout

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
8/14/07 10:52 PM	57	34	Whitefish or Trout
8/15/07 9:04 PM	57	34	Trout
8/16/07 8:56 PM	60	36	Trout
8/17/07 8:51 AM	57	34	Whitefish or Trout
8/17/07 9:23 AM	70	42	Trout
8/17/07 5:34 PM	62	37	Trout
8/17/07 8:09 PM	62	37	Trout
8/18/07 4:55 PM	62	37	Trout
8/18/07 7:52 PM	37	22	Whitefish or Trout
8/18/07 8:58 PM	70	42	Trout
8/19/07 12:47 AM	35	21	Whitefish or Trout
8/19/07 2:50 PM	47	28	Trout
8/19/07 8:20 PM	62	37	Trout
8/20/07 8:22 PM	65	39	Trout
8/21/07 12:34 PM	65	39	Trout
8/22/07 5:59 AM	131	78	Salmonid
8/22/07 3:54 PM	52	31	Trout
8/22/07 9:01 PM	65	39	Trout
8/23/07 5:26 AM	131	78	Salmonid
8/23/07 1:14 PM	37	22	Trout
8/23/07 2:32 PM	57	34	Trout
8/23/07 3:45 PM	60	36	Trout
8/23/07 3:45 PM	65	39	Trout
8/23/07 7:41 PM	45	27	Whitefish or Trout
8/23/07 9:02 PM	62	37	Trout
8/24/07 2:49 AM	130	78	Salmonid
8/24/07 4:24 AM	108	64	Salmonid
8/24/07 5:38 AM	118	70	Salmonid
8/24/07 6:18 AM	122	73	Salmonid
8/24/07 12:26 PM	60	36	Trout
8/24/07 12:43 PM	60	36	Trout
8/24/07 7:57 PM	60	36	Trout
8/24/07 8:48 PM	62	37	Trout
8/24/07 9:41 PM	131	78	Salmonid
8/25/07 12:30 AM	125	75	Salmonid
8/25/07 1:55 AM	214	128	Salmonid
8/25/07 6:28 AM	142	85	Salmonid
8/25/07 8:05 PM	60	36	Trout
8/25/07 8:25 PM	65	39	Trout
8/25/07 11:30 PM	127	76	Salmonid
8/26/07 2:29 AM	112	67	Salmonid
8/26/07 3:55 AM	168	100	Salmonid
8/26/07 4:21 AM	103	61	Salmonid
8/26/07 5:34 AM	141	84	Salmonid

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
8/26/07 7:50 AM	60	36	Trout
8/26/07 9:03 AM	55	33	Trout
8/26/07 11:30 AM	62	37	Trout
8/26/07 12:44 PM	65	39	Trout
8/26/07 12:59 PM	57	34	Trout
8/26/07 1:09 PM	62	37	Trout
8/26/07 8:28 PM	62	37	Trout
8/27/07 12:20 AM	114	68	Salmonid
8/27/07 12:42 AM	153	91	Salmonid
8/27/07 1:34 AM	65	39	Whitefish or Trout
8/27/07 6:03 AM	117	70	Salmonid
8/27/07 8:03 AM	57	34	Whitefish or Trout
8/27/07 10:34 AM	57	34	Whitefish or Trout
8/27/07 1:11 PM	60	36	Trout
8/27/07 5:00 PM	145	87	Salmonid
8/27/07 5:47 PM	57	34	Whitefish or Trout
8/27/07 5:47 PM	138	82	Salmonid
8/28/07 3:09 PM	60	36	Whitefish or Trout
8/28/07 3:13 PM	40	24	Trout
8/28/07 9:12 PM	65	39	Trout
8/29/07 1:52 PM	55	33	Trout
8/30/07 12:25 PM	122	73	Salmonid
8/30/07 7:55 PM	57	34	Whitefish or Trout
8/30/07 8:11 PM	60	36	Trout
8/31/07 5:40 PM	52	31	Trout
8/31/07 8:16 PM	65	39	Trout
9/1/07 3:20 PM	57	34	Trout
9/1/07 7:34 PM	65	39	Trout
9/2/07 7:10 PM	52	31	Trout
9/2/07 8:12 PM	60	36	Trout
9/3/07 7:23 PM	55	33	Trout
9/3/07 8:05 PM	55	33	Trout
9/4/07 2:20 AM	105	63	Salmonid
2/27/08 4:42 PM	85	51	Trout
2/27/08 4:42 PM	57	34	Trout
2/27/08 6:02 PM	82	49	Trout
2/28/08 8:33 PM	103	61	Coho or Trout
2/29/08 7:40 PM	80	48	Trout
2/29/08 8:29 PM	62	37	Trout
3/1/08 11:49 AM	75	45	Trout
3/1/08 1:28 PM	105	63	Trout
3/1/08 2:19 PM	75	45	Trout
3/3/08 3:03 PM	107	64	Trout
3/4/08 3:30 PM	82	49	Trout

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
3/5/08 5:56 PM	40	24	Whitefish or Trout
3/5/08 6:28 PM	85	51	Trout
3/5/08 7:18 PM	40	24	Whitefish or Trout
3/7/08 11:50 AM	72	43	Trout
3/7/08 3:16 PM	90	54	Trout
3/7/08 8:37 PM	88	52	Coho or Trout
3/8/08 12:13 PM	102	61	Trout
3/8/08 12:13 PM	105	63	Trout
3/8/08 2:30 PM	62	37	Trout
3/8/08 5:59 PM	45	27	Whitefish or Trout
3/9/08 4:09 PM	57	34	Trout
3/9/08 4:44 PM	95	57	Trout
3/9/08 5:16 PM	75	45	Trout
3/10/08 7:25 AM	60	36	Trout
3/10/08 10:10 AM	70	42	Trout
3/10/08 1:41 PM	75	45	Trout
3/10/08 5:51 PM	87	52	Coho or Trout
3/11/08 12:35 AM	57	34	Trout
3/11/08 5:10 AM	90	54	Trout
3/11/08 11:40 AM	82	49	Trout
3/11/08 11:47 AM	85	51	Trout
3/11/08 11:52 AM	75	45	Trout
3/11/08 12:20 PM	85	51	Trout
3/11/08 4:56 PM	92	55	Trout
3/11/08 8:22 PM	57	34	Trout
3/12/08 2:42 PM	90	54	Coho or Trout
3/12/08 6:43 PM	57	34	Trout
3/13/08 1:34 PM	45	27	Trout
3/13/08 6:45 PM	60	36	Trout
3/14/08 11:32 AM	92	55	Coho or Trout
3/14/08 1:31 PM	92	55	Coho or Trout
3/14/08 4:40 PM	57	34	Trout
3/14/08 5:42 PM	45	27	Whitefish or Trout
3/14/08 7:43 PM	60	36	Whitefish or Trout
3/15/08 8:49 AM	60	36	Whitefish or Trout
3/15/08 4:15 PM	65	39	Whitefish or Trout
3/15/08 5:54 PM	102	61	Coho or Trout
3/15/08 7:02 PM	55	33	Whitefish or Trout
3/16/08 5:34 PM	57	34	Whitefish or Trout
3/16/08 5:55 PM	72	43	Trout
3/17/08 7:16 AM	60	36	Whitefish or Trout
3/17/08 6:13 PM	60	36	Whitefish or Trout
3/18/08 6:07 PM	52	31	Whitefish or Trout
3/18/08 7:52 PM	42	25	Whitefish or Trout

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
3/19/08 1:31 PM	65	39	Trout
3/19/08 3:07 PM	70	42	Trout
3/19/08 5:26 PM	60	36	Whitefish or Trout
3/20/08 10:58 AM	95	57	Trout
3/20/08 4:32 PM	85	51	Trout
3/20/08 6:27 PM	102	61	Coho or Trout
3/20/08 6:27 PM	60	36	Whitefish or Trout
3/21/08 4:24 PM	85	51	Trout
3/21/08 5:55 PM	47	28	Undecided
3/21/08 6:10 PM	60	36	Whitefish or Trout
3/22/08 1:04 PM	80	48	Trout
3/22/08 2:33 PM	57	34	Whitefish
3/22/08 3:02 PM	47	28	Trout
3/22/08 6:19 PM	57	34	Whitefish or Trout
3/23/08 6:28 PM	57	34	Whitefish or Trout
3/24/08 3:42 PM	80	48	Trout
3/24/08 4:14 PM	45	27	Undecided
3/24/08 5:00 PM	37	22	Trout
3/24/08 6:23 PM	60	36	Whitefish or Trout
3/24/08 6:30 PM	45	27	Whitefish or Trout
3/25/08 5:31 PM	62	37	Whitefish or Trout
3/26/08 12:27 AM	65	39	Undecided
3/26/08 2:13 PM	87	52	Trout
3/26/08 6:18 PM	55	33	Whitefish or Trout
3/26/08 6:18 PM	95	57	Trout
3/27/08 3:31 PM	62	37	Whitefish
3/27/08 6:42 PM	60	36	Whitefish or Trout
3/28/08 7:45 AM	57	34	Trout
3/28/08 8:27 AM	60	36	Trout
3/28/08 8:54 AM	57	34	Trout
3/28/08 6:41 PM	47	28	Whitefish or Trout
3/28/08 10:45 PM	60	36	Whitefish or Trout
3/29/08 11:12 AM	40	24	Whitefish or Trout
3/29/08 3:45 PM	50	30	Trout
3/29/08 6:49 PM	62	37	Whitefish or Trout
3/30/08 12:42 PM	47	28	Trout
3/30/08 1:46 PM	100	60	Trout
3/30/08 1:46 PM	62	37	Trout
3/30/08 2:01 PM	45	27	Trout
3/30/08 2:12 PM	47	28	Trout
3/30/08 2:20 PM	42	25	Trout
3/30/08 3:01 PM	60	36	Trout
3/30/08 6:40 PM	62	37	Whitefish or Trout
3/31/08 7:30 AM	50	30	Trout

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
3/31/08 2:03 PM	37	22	Trout
3/31/08 6:07 PM	62	37	Whitefish or Trout
3/31/08 6:32 PM	70	42	Trout
3/31/08 6:35 PM	37	22	Whitefish or Trout
4/1/08 8:14 AM	45	27	Trout
4/1/08 6:06 PM	60	36	Whitefish or Trout
4/2/08 6:16 AM	45	27	Whitefish or Trout
4/2/08 2:47 PM	72	43	Trout
4/2/08 6:13 PM	62	37	Whitefish or Trout
4/3/08 6:46 AM	57	34	Whitefish or Trout
4/3/08 7:22 AM	50	30	Whitefish or Trout
4/3/08 10:23 AM	35	21	Trout
4/3/08 5:48 PM	62	37	Trout
4/4/08 6:23 AM	60	36	Whitefish or Trout
4/4/08 8:26 AM	62	37	Trout
4/4/08 4:39 PM	57	34	Whitefish or Trout
4/4/08 6:44 PM	47	28	Whitefish or Trout
4/5/08 7:17 AM	40	24	Trout
4/5/08 12:47 PM	57	34	Trout
4/5/08 1:15 PM	95	57	Trout
4/5/08 1:15 PM	60	36	Trout
4/5/08 2:01 PM	70	42	Trout
4/5/08 3:24 PM	42	25	Trout
4/5/08 3:41 PM	50	30	Trout
4/5/08 5:20 PM	57	34	Trout
4/5/08 6:49 PM	45	27	Whitefish or Trout
4/6/08 7:49 AM	62	37	Trout
4/6/08 8:24 AM	62	37	Trout
4/6/08 8:41 AM	50	30	Trout
4/6/08 12:04 PM	60	36	Trout
4/6/08 1:17 PM	50	30	Trout
4/6/08 1:56 PM	62	37	Trout
4/6/08 2:05 PM	67	40	Whitefish
4/6/08 2:13 PM	60	36	Whitefish
4/6/08 2:27 PM	47	28	Whitefish
4/6/08 3:51 PM	42	25	Whitefish
4/6/08 3:59 PM	65	39	Trout
4/6/08 3:59 PM	62	37	Trout
4/6/08 5:17 PM	47	28	Whitefish or Trout
4/6/08 5:35 PM	47	28	Trout
4/6/08 6:45 PM	62	37	Whitefish or Trout
4/6/08 7:46 PM	52	31	Whitefish or Trout
4/7/08 8:23 AM	62	37	Whitefish or Trout
4/7/08 9:22 AM	60	36	Trout

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
4/7/08 12:50 PM	75	45	Trout
4/7/08 12:50 PM	57	34	Trout
4/7/08 12:58 PM	40	24	Trout
4/7/08 1:19 PM	45	27	Trout
4/7/08 1:25 PM	60	36	Trout
4/7/08 3:43 PM	37	22	Trout
4/7/08 4:07 PM	42	25	Trout
4/7/08 5:05 PM	55	33	Whitefish
4/7/08 5:20 PM	50	30	Whitefish
4/7/08 6:09 PM	50	30	Whitefish or Trout
4/7/08 6:09 PM	62	37	Whitefish or Trout
4/7/08 6:30 PM	62	37	Whitefish or Trout
4/7/08 9:28 PM	67	40	Whitefish or Trout
4/8/08 7:38 AM	57	34	Trout
4/8/08 8:37 AM	65	39	Trout
4/8/08 1:38 PM	62	37	Trout
4/8/08 3:43 PM	60	36	Trout
4/8/08 6:23 PM	62	37	Whitefish or Trout
4/8/08 8:34 PM	55	33	Whitefish or Trout
4/9/08 7:23 AM	47	28	Whitefish or Trout
4/9/08 8:11 AM	60	36	Trout
4/9/08 8:57 AM	65	39	Trout
4/9/08 11:54 AM	92	55	Trout
4/9/08 12:27 PM	62	37	Trout
4/9/08 1:54 PM	47	28	Trout
4/9/08 2:02 PM	60	36	Trout
4/9/08 6:23 PM	60	36	Trout
4/10/08 7:14 AM	62	37	Whitefish or Trout
4/10/08 8:19 AM	62	37	Trout
4/10/08 9:18 AM	57	34	Trout
4/10/08 10:21 AM	60	36	Trout
4/11/08 7:01 AM	62	37	Whitefish or Trout
4/11/08 7:36 AM	50	30	Whitefish or Trout
4/11/08 8:23 AM	60	36	Trout
4/11/08 9:09 AM	62	37	Trout
4/11/08 9:44 AM	50	30	Trout
4/11/08 9:44 AM	60	36	Trout
4/11/08 12:28 PM	65	39	Trout
4/11/08 5:13 PM	62	37	Trout
4/11/08 5:58 PM	47	28	Whitefish or Trout
4/11/08 6:08 PM	40	24	Whitefish or Trout
4/11/08 6:23 PM	67	40	Whitefish or Trout
4/11/08 8:19 PM	47	28	Whitefish or Trout
4/12/08 6:44 AM	62	37	Whitefish or Trout

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
4/12/08 7:35 AM	62	37	Whitefish or Trout
4/12/08 8:07 AM	62	37	Trout
4/12/08 9:13 AM	60	36	Trout
4/12/08 11:19 AM	62	37	Trout
4/12/08 3:49 PM	60	36	Trout
4/12/08 5:17 PM	82	49	Trout
4/12/08 6:32 PM	42	25	Whitefish or Trout
4/12/08 7:33 PM	37	22	Whitefish or Trout
4/12/08 7:58 PM	42	25	Whitefish or Trout
4/12/08 8:02 PM	55	33	Whitefish or Trout
4/13/08 5:30 AM	75	45	Whitefish or Trout
4/13/08 7:43 AM	60	36	Whitefish or Trout
4/13/08 8:01 AM	40	24	Trout
4/13/08 9:26 AM	65	39	Trout
4/13/08 1:56 PM	50	30	Whitefish
4/13/08 1:57 PM	55	33	Whitefish
4/13/08 2:02 PM	50	30	Whitefish
4/13/08 2:12 PM	52	31	Whitefish
4/13/08 2:36 PM	85	51	Trout
4/13/08 2:36 PM	35	21	Trout
4/13/08 2:40 PM	57	34	Trout
4/13/08 5:51 PM	65	39	Whitefish or Trout
4/13/08 7:43 PM	47	28	Whitefish or Trout
4/14/08 4:23 AM	35	21	Whitefish or Trout
4/14/08 6:44 AM	65	39	Whitefish or Trout
4/14/08 8:29 AM	60	36	Whitefish or Trout
4/14/08 9:59 AM	40	24	Trout
4/14/08 10:45 AM	62	37	Trout
4/14/08 11:38 AM	42	25	Trout
4/14/08 1:46 PM	65	39	Trout
4/14/08 7:12 PM	37	22	Whitefish or Trout
4/14/08 7:48 PM	50	30	Whitefish or Trout
4/14/08 7:50 PM	60	36	Whitefish or Trout
4/15/08 6:55 AM	62	37	Whitefish or Trout
4/15/08 8:39 AM	47	28	Whitefish or Trout
4/15/08 8:51 AM	60	36	Trout
4/15/08 11:03 AM	47	28	Trout
4/15/08 5:56 PM	97	58	Trout
4/15/08 7:21 PM	52	31	Whitefish or Trout
4/15/08 7:24 PM	60	36	Whitefish or Trout
4/15/08 7:46 PM	52	31	Whitefish or Trout
4/16/08 6:51 AM	50	30	Whitefish or Trout
4/16/08 8:19 AM	65	39	Whitefish or Trout
4/16/08 2:20 PM	50	30	Trout

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
4/16/08 3:22 PM	60	36	Whitefish
4/16/08 8:45 PM	50	30	Whitefish or Trout
4/16/08 10:02 PM	100	60	Trout
4/16/08 10:39 PM	60	36	Whitefish or Trout
4/16/08 11:57 PM	55	33	Whitefish or Trout
4/17/08 6:55 AM	50	30	Whitefish or Trout
4/17/08 7:19 AM	62	37	Whitefish or Trout
4/17/08 12:17 PM	62	37	Trout
4/17/08 1:44 PM	65	39	Trout
4/17/08 2:52 PM	65	39	Whitefish
4/17/08 4:42 PM	72	43	Trout
4/17/08 5:18 PM	42	25	Whitefish or Trout
4/17/08 8:01 PM	47	28	Whitefish or Trout
4/17/08 10:17 PM	65	39	Whitefish or Trout
4/18/08 12:44 PM	62	37	Trout
4/18/08 1:02 PM	40	24	Trout
4/18/08 6:47 PM	65	39	Whitefish or Trout
4/18/08 9:43 PM	42	25	Whitefish or Trout
4/19/08 7:41 AM	60	36	Whitefish or Trout
4/19/08 10:08 AM	42	25	Trout
4/19/08 10:24 AM	65	39	Trout
4/19/08 2:03 PM	60	36	Trout
4/19/08 2:51 PM	45	27	Trout
4/19/08 4:20 PM	47	28	Whitefish or Trout
4/19/08 5:39 PM	65	39	Whitefish or Trout
4/20/08 10:47 AM	42	25	Trout
4/20/08 12:43 PM	57	34	Whitefish
4/20/08 1:27 PM	47	28	Trout
4/20/08 1:32 PM	65	39	Trout
4/20/08 1:42 PM	50	30	Trout
4/20/08 2:20 PM	47	28	Whitefish or Trout
4/20/08 5:10 PM	60	36	Trout
4/20/08 5:11 PM	47	28	Whitefish or Trout
4/21/08 2:18 PM	45	27	Trout
4/21/08 4:39 PM	50	30	Whitefish
4/21/08 4:57 PM	65	39	Trout
4/22/08 1:47 PM	47	28	Whitefish
4/22/08 3:11 PM	82	49	Trout
4/22/08 6:42 PM	42	25	Trout
4/22/08 7:48 PM	37	22	Whitefish or Trout
4/23/08 1:36 PM	42	25	Trout
4/23/08 5:45 PM	65	39	Trout
4/23/08 6:20 PM	37	22	Trout
4/23/08 6:21 PM	62	37	Whitefish

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
4/24/08 11:25 AM	42	25	Trout
4/24/08 2:14 PM	42	25	Trout
4/24/08 5:38 PM	65	39	Trout
4/24/08 6:01 PM	45	27	Trout
4/25/08 8:17 AM	67	40	Trout
4/25/08 8:27 AM	45	27	Trout
4/25/08 1:08 PM	82	49	Trout
4/25/08 2:16 PM	82	49	Trout
4/25/08 2:16 PM	55	33	Trout
4/25/08 2:20 PM	37	22	Trout
4/25/08 2:30 PM	52	31	Whitefish
4/25/08 3:33 PM	50	30	Whitefish
4/25/08 4:04 PM	45	27	Trout
4/25/08 4:10 PM	60	36	Whitefish or Trout
4/25/08 4:11 PM	67	40	Trout
4/25/08 4:43 PM	52	31	Whitefish or Trout
4/25/08 6:52 PM	42	25	Whitefish or Trout
4/26/08 9:08 AM	45	27	Trout
4/26/08 11:48 AM	77	46	Trout
4/26/08 1:22 PM	47	28	Trout
4/26/08 3:21 PM	42	25	Whitefish
4/26/08 3:34 PM	50	30	Whitefish or Trout
4/26/08 4:36 PM	60	36	Whitefish or Trout
4/26/08 4:58 PM	50	30	Whitefish
4/26/08 5:53 PM	65	39	Trout
4/26/08 8:05 PM	37	22	Whitefish or Trout
4/26/08 8:08 PM	37	22	Whitefish or Trout
4/27/08 2:12 AM	52	31	Whitefish or Trout
4/27/08 7:39 AM	47	28	Whitefish or Trout
4/27/08 9:31 AM	57	34	Whitefish
4/27/08 1:10 PM	42	25	Trout
4/27/08 4:10 PM	45	27	Trout
4/27/08 5:51 PM	62	37	Whitefish or Trout
4/27/08 6:17 PM	47	28	Whitefish or Trout
4/28/08 12:31 AM	37	22	Whitefish or Trout
4/28/08 8:36 AM	42	25	Whitefish or Trout
4/28/08 10:34 AM	47	28	Whitefish
4/28/08 11:33 AM	45	27	Trout
4/28/08 12:13 PM	55	33	Whitefish
4/28/08 1:12 PM	32	19	Whitefish or Trout
4/28/08 1:24 PM	55	33	Whitefish or Trout
4/28/08 1:29 PM	45	27	Trout
4/28/08 4:13 PM	97	58	Trout
4/28/08 4:57 PM	62	37	Whitefish or Trout

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
4/28/08 4:58 PM	62	37	Whitefish or Trout
4/28/08 5:53 PM	45	27	Whitefish or Trout
4/28/08 6:09 PM	60	36	Whitefish
4/28/08 7:06 PM	37	22	Whitefish or Trout
4/28/08 8:16 PM	42	25	Whitefish or Trout
4/28/08 8:43 PM	45	27	Whitefish or Trout
4/29/08 1:17 PM	60	36	Whitefish
4/29/08 1:31 PM	42	25	Trout
4/29/08 2:35 PM	45	27	Whitefish or Trout
4/29/08 3:02 PM	47	28	Whitefish
4/29/08 3:43 PM	37	22	Whitefish
4/29/08 4:14 PM	55	33	Whitefish or Trout
4/29/08 5:25 PM	65	39	Trout
4/29/08 8:42 PM	45	27	Whitefish or Trout
4/30/08 1:22 PM	45	27	Trout
4/30/08 4:15 PM	67	40	Trout
4/30/08 4:38 PM	57	34	Whitefish or Trout
4/30/08 6:20 PM	50	30	Whitefish or Trout
4/30/08 6:44 PM	50	30	Whitefish
4/30/08 6:50 PM	45	27	Whitefish
4/30/08 7:38 PM	42	25	Whitefish or Trout
4/30/08 8:42 PM	65	39	Whitefish or Trout
5/1/08 6:52 AM	42	25	Whitefish or Trout
5/1/08 9:37 AM	45	27	Whitefish or Trout
5/1/08 10:56 AM	47	28	Whitefish or Trout
5/1/08 12:32 PM	45	27	Whitefish or Trout
5/1/08 3:14 PM	42	25	Whitefish or Trout
5/1/08 4:02 PM	70	42	Whitefish or Trout
5/1/08 6:14 PM	40	24	Whitefish or Trout
5/1/08 6:28 PM	60	36	Whitefish or Trout
5/1/08 7:29 PM	62	37	Whitefish or Trout
5/2/08 9:29 AM	40	24	Whitefish or Trout
5/2/08 10:48 AM	67	40	Whitefish or Trout
5/2/08 3:01 PM	45	27	Whitefish or Trout
5/2/08 3:09 PM	90	54	Trout
5/2/08 4:19 PM	65	39	Whitefish or Trout
5/2/08 5:40 PM	45	27	Whitefish or Trout
5/2/08 9:56 PM	47	28	Whitefish or Trout
5/3/08 10:30 AM	65	39	Whitefish or Trout
5/3/08 11:05 AM	45	27	Whitefish or Trout
5/3/08 12:43 PM	42	25	Whitefish or Trout
5/3/08 2:19 PM	42	25	Whitefish or Trout
5/3/08 3:30 PM	45	27	Whitefish or Trout
5/3/08 5:49 PM	47	28	Whitefish or Trout

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
5/3/08 6:47 PM	65	39	Whitefish or Trout
5/3/08 8:10 PM	45	27	Whitefish or Trout
5/4/08 7:36 AM	67	40	Whitefish or Trout
5/4/08 8:45 AM	47	28	Whitefish or Trout
5/4/08 10:39 AM	42	25	Whitefish or Trout
5/4/08 12:24 PM	47	28	Whitefish or Trout
5/4/08 1:15 PM	47	28	Whitefish or Trout
5/4/08 1:30 PM	65	39	Whitefish or Trout
5/4/08 2:19 PM	65	39	Whitefish or Trout
5/4/08 2:23 PM	67	40	Whitefish or Trout
5/4/08 2:43 PM	62	37	Whitefish or Trout
5/4/08 3:35 PM	47	28	Whitefish or Trout
5/4/08 4:30 PM	65	39	Whitefish or Trout
5/4/08 4:38 PM	45	27	Whitefish or Trout
5/4/08 4:48 PM	50	30	Whitefish or Trout
5/4/08 5:06 PM	55	33	Whitefish or Trout
5/4/08 6:45 PM	45	27	Whitefish or Trout
5/4/08 7:09 PM	45	27	Whitefish or Trout
5/4/08 8:41 PM	45	27	Whitefish or Trout
5/5/08 5:58 AM	65	39	Whitefish or Trout
5/5/08 6:27 AM	65	39	Whitefish or Trout
5/5/08 9:02 AM	42	25	Whitefish or Trout
5/5/08 10:17 AM	45	27	Whitefish or Trout
5/5/08 11:29 AM	47	28	Whitefish or Trout
5/5/08 2:08 PM	65	39	Whitefish or Trout
5/5/08 2:40 PM	62	37	Whitefish or Trout
5/5/08 3:09 PM	60	36	Whitefish or Trout
5/5/08 5:23 PM	35	21	Whitefish or Trout
5/5/08 5:32 PM	52	31	Whitefish or Trout
5/5/08 7:06 PM	42	25	Whitefish or Trout
5/5/08 7:23 PM	45	27	Whitefish or Trout
5/6/08 7:22 AM	47	28	Whitefish or Trout
5/6/08 7:25 AM	65	39	Whitefish or Trout
5/6/08 8:32 AM	42	25	Whitefish or Trout
5/6/08 9:41 AM	45	27	Whitefish or Trout
5/6/08 10:13 AM	62	37	Whitefish or Trout
5/6/08 10:54 AM	45	27	Whitefish or Trout
5/6/08 11:01 AM	45	27	Whitefish or Trout
5/6/08 1:52 PM	47	28	Whitefish or Trout
5/6/08 3:43 PM	45	27	Whitefish or Trout
5/6/08 9:10 PM	47	28	Whitefish or Trout
5/6/08 9:28 PM	67	40	Whitefish or Trout
5/6/08 11:01 PM	37	22	Whitefish or Trout
5/7/08 7:46 AM	40	24	Whitefish or Trout

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
5/7/08 8:46 AM	40	24	Whitefish or Trout
5/7/08 10:10 AM	50	30	Whitefish or Trout
5/7/08 3:36 PM	47	28	Whitefish or Trout
5/7/08 5:13 PM	42	25	Whitefish or Trout
5/7/08 6:18 PM	35	21	Whitefish or Trout
5/7/08 6:33 PM	65	39	Whitefish or Trout
5/7/08 7:17 PM	45	27	Whitefish or Trout
5/7/08 8:18 PM	40	24	Whitefish or Trout
5/7/08 8:54 PM	47	28	Whitefish or Trout
5/8/08 7:53 AM	87	52	Trout
5/8/08 9:56 AM	42	25	Whitefish or Trout
5/8/08 10:24 AM	40	24	Whitefish or Trout
5/16/08 12:56 PM	50	30	Whitefish or Trout
5/16/08 12:59 PM	50	30	Whitefish or Trout
5/16/08 1:06 PM	67	40	Whitefish or Trout
5/16/08 1:16 PM	40	24	Whitefish or Trout
5/16/08 1:20 PM	50	30	Whitefish or Trout
5/16/08 1:23 PM	62	37	Trout
5/16/08 2:00 PM	45	27	Trout
5/16/08 2:13 PM	52	31	Trout
5/16/08 2:52 PM	45	27	Whitefish or Trout
5/16/08 3:04 PM	52	31	Whitefish or Trout
5/16/08 3:11 PM	47	28	Trout
5/16/08 3:41 PM	65	39	Whitefish or Trout
5/16/08 3:54 PM	65	39	Whitefish
5/16/08 5:13 PM	55	33	Whitefish or Trout
5/16/08 5:25 PM	50	30	Whitefish or Trout
5/16/08 5:39 PM	47	28	Whitefish or Trout
5/17/08 1:16 PM	82	49	Trout
6/3/08 6:47 AM	50	30	Whitefish or Trout
6/3/08 10:53 AM	50	30	Whitefish or Trout
6/5/08 2:01 PM	50	30	Whitefish or Trout
6/5/08 3:31 PM	55	33	Trout
6/5/08 3:32 PM	47	28	Trout
6/5/08 4:08 PM	47	28	Whitefish or Trout
6/5/08 8:59 PM	37	22	Whitefish or Trout
6/5/08 9:06 PM	42	25	Trout
6/5/08 9:06 PM	42	25	Whitefish or Trout
6/5/08 9:08 PM	51	30	Whitefish or Trout
6/6/08 1:17 PM	87	52	Trout
6/7/08 8:14 AM	50	30	Whitefish or Trout
6/7/08 2:07 PM	40	24	Whitefish
6/7/08 2:58 PM	50	30	Whitefish or Trout
6/7/08 9:27 PM	47	28	Trout

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
6/8/08 12:56 AM	110	66	Trout
6/8/08 4:58 PM	47	28	Trout
6/8/08 6:56 PM	37	22	Whitefish or Trout
6/9/08 4:03 PM	55	33	Whitefish
6/9/08 4:06 PM	42	25	Whitefish
6/9/08 6:22 PM	92	55	Trout
6/9/08 7:19 PM	45	27	Whitefish or Trout
6/9/08 9:06 PM	40	24	Whitefish or Trout
6/10/08 2:58 PM	67	40	Whitefish or Trout
6/10/08 7:04 PM	47	28	Whitefish or Trout
6/12/08 10:33 AM	72	43	Trout
6/13/08 6:56 AM	65	39	Whitefish or Trout
6/13/08 12:26 PM	40	24	Whitefish or Trout
6/13/08 6:41 PM	85	51	Trout
6/14/08 4:06 PM	60	36	Whitefish or Trout
6/15/08 10:13 AM	70	42	Trout
6/15/08 4:32 PM	45	27	Whitefish or Trout
6/15/08 6:18 PM	65	39	Whitefish or Trout
6/16/08 4:58 PM	55	33	Whitefish or Trout
6/16/08 8:51 PM	47	28	Whitefish or Trout
6/17/08 9:34 PM	52	31	Trout
6/18/08 9:52 PM	45	27	Trout
6/19/08 11:46 AM	47	28	Whitefish or Trout
6/19/08 7:49 PM	47	28	Whitefish or Trout
6/19/08 8:07 PM	60	36	Whitefish or Trout
6/20/08 9:57 AM	77	46	Trout
6/20/08 4:52 PM	47	28	Whitefish or Trout
6/20/08 9:43 PM	50	30	Trout
6/21/08 1:26 PM	55	33	Trout
6/21/08 4:42 PM	72	43	Trout
6/21/08 9:37 PM	50	30	Trout
6/22/08 7:17 AM	37	22	Whitefish or Trout
6/22/08 8:48 PM	45	27	Whitefish or Trout
6/22/08 9:12 PM	50	30	Trout
6/23/08 8:31 PM	45	27	Whitefish or Trout
6/24/08 8:17 PM	50	30	Trout
6/24/08 8:42 PM	47	28	Trout
6/25/08 7:25 AM	87	52	Trout
6/25/08 5:14 PM	47	28	Trout
6/25/08 6:06 PM	50	30	Trout
6/26/08 4:36 PM	80	48	Trout
6/26/08 7:57 PM	50	30	Whitefish or Trout
6/26/08 8:09 PM	50	30	Whitefish or Trout
6/27/08 5:51 PM	42	25	Whitefish or Trout

Date/Time	Body Depth [mm]	Total Length Est. [cm]	Species
6/27/08 7:58 PM	50	30	Trout
6/28/08 2:05 PM	35	21	Whitefish or Trout
6/28/08 4:16 PM	50	30	Trout
6/28/08 7:43 PM	50	30	Trout
6/28/08 8:42 PM	45	27	Whitefish or Trout
6/29/08 11:17 AM	52	31	Whitefish or Trout
6/29/08 3:01 PM	45	27	Whitefish or Trout
6/29/08 6:10 PM	50	30	Trout
6/29/08 8:22 PM	47	28	Trout
6/30/08 6:56 AM	50	30	Whitefish or Trout
6/30/08 8:17 AM	55	33	Trout
6/30/08 12:08 PM	45	27	Trout
6/30/08 4:23 PM	47	28	Trout
6/30/08 4:57 PM	52	31	Trout
6/30/08 8:20 PM	50	30	Whitefish or Trout